Estimating Population Size and Survival Rates of Blue Catfish in Chesapeake Bay Tributaries

M. C. FABRIZIO
T. D. TUCKEY
R. J. LATOUR
G. GARMAN
R. GREENLEE
M. GROVES

Sustainable Fisheries Goal Implementation Team Meeting
June 11-12th
Annapolis, Maryland

Chesapeake Bay Program
A Watershed Partnership

Estimating Population Size and Survival Rates of Blue Catfish in Chesapeake Bay Tributaries

- *PIs*: Mary C. Fabrizio (VIMS)
  Troy D. Tuckey (VIMS)
  Robert J. Latour (VIMS)
  Greg Garman(VCU)
  Bob Greenlee (VDGIF)
  Mary Groves (MDNR)
- *Partners*: Howard Townsend (NOAA)

Chesapeake Bay Program
A Watershed Partnership

VIMS | William & Mary
Virginia Institute of Marine Science
VCU
Virginia Department of Game & Inland Fisheries
Maryland Department of Natural Resources

Estimating Population Size and Survival Rates of Blue Catfish in Chesapeake Bay Tributaries

- *Rationale*: Invasive blue catfish have the potential to alter food webs, compete with native fishes, and change the ecology and fisheries of tidal rivers. Blue catfish populations have increased and expanded downriver and now occupy habitats throughout the freshwater regions, down to estuarine waters.
- *Objective*: Estimate population size of blue catfish in the James River and measure movements between freshwater and estuarine reaches

Chesapeake Bay Program
A Watershed Partnership

Estimating Population Size and Survival Rates of Blue Catfish in Chesapeake Bay Tributaries

- *Approach*:
  - Population size & survival:
    - Conduct multi-year tagging study in the James River
    - Capture fish using electrofishing
    - Tag fish with coded-wire tags (tag loss at 28 d = 8.2%)
    - Fish recaptured by VIMS trawl survey, VCU electrofishing survey, and VDGIF electrofishing survey
  - Movement
    - Tag fish with dart tags in the Potomac River
    - Reward recaptures from recreational fishery; other recaptures from MD DNR electrofishing surveys

Chesapeake Bay Program
A Watershed Partnership

Estimating Population Size and Survival Rates of Blue Catfish in Chesapeake Bay Tributaries

- *Potential relevance/impacts*:
  - Results can be used to calibrate models of trophic interactions within tributaries
  - Results can be used to verify abundance estimates from ongoing fishery-independent surveys
  - Results can be used to understand spread of blue catfish across salinity zones

Chesapeake Bay Program
A Watershed Partnership